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Quarterly

FSHS Newsletter

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In this issue:

Greetings from the Editor

By Tatiana Sanchez

Dr. Tatiana Sanchez
Commercial Hort. Agent
UF/IFAS Extension—Alachua

It is been a while since we touched your screens with news about our society. Much of this delay was related to an unusual end of the year due to the past hurricane season. Many of our responsibilities were affected one way or another by the devastating effect of the storms adding more things to deal with in an already full schedule. But the new year is here and we are back to update you on changes and future happenings in FSHS.

We will start by thanking Dr. Mark Ritenour for the great job performed as our past President and appreciate his new role as Chair of our Board of Directors. We now welcome Dr. Eric Simonne, FSHS current president, who takes on this task with enthusiasm and ready to lead us to a successful 131st meeting in June. Dr. Simonne has been working with the University of Florida since 2000 and is the current Northeast District Extension Director. To review the complete and updated list of Officers and Board members, visit our website and contact fellow members with any questions or suggestions.

In past issues, we have had a mixture of topics to offer our readers information related to both professional development and horticulture. We begin this issue with a message from our president on the *Business of Horticultural Science* and the needed skills to succeed in our roles as horticulturalists in today's world. Then, we bring you updates from the Proceeding Editors and the Secretary to keep you informed about the society. Lastly, we have two featured articles that relate to trees. One describes how UF educators warn of a devastating disease that is a potential threat to the avocado industry in California. The second article introduces the work of UF/IFAS research on the resilience of trees against natural disasters and their importance in the landscape.

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To end, I encourage all of our members to save the date and plan to attend FSHS 131st Annual Meeting that will be celebrated on June 10 through 12 at the Renaissance Ft. Lauderdale Cruise Port Hotel. We look forward to seeing you in June.

President's Corner

Dr. Eric Simonne
UF/IFAS North East District
Extension Director

The Business of Horticultural Science Part I: FSHS Members

By Eric Simonne

The strength and heart of the Florida State Horticulture Society has always been its members. As the name implies, all members are horticulturists: growers, members of the supply industry, researchers, teachers, specialists, Extension agents, and students. Generations of FSHS members are united by their passion for growing plants, doing research, sharing their knowledge, and making Florida stronger. The society's main purpose and events (the annual meeting and the proceedings) exist in support of these technical roles.

As the society enters its 131ST year, its purposes defined in Article III of the by-laws (Table 1) have remained remarkably relevant through time. So, nothing has changed? On one hand, by-law purposes A, B, C and D have not changed fundamentally. Science, publication, and membership services remain the foundation of the society. On the other hand, the mode of operation of charitable organizations and those of research and Extension scientists have deeply changed in recent past. The first part of this communications focuses on how FSHS members have responded to changes in the academic world.

The successful management of a research, teaching and extension program by a FSHS member today requires skills beyond the fundamental scientific and technical skills taught traditionally in Graduate School. Administrators, clients, and funding agencies are no longer satisfied with the number of publications and students graduated as metrics of academic success. Impact factors, students' placement after graduation, and clients' adoption of research-based practices are now the norm.

Faculty members at major universities are now responsible for grant writing and program financial management, hiring and mentoring students and staff, accommodating the needs of different generations in the workplace, and maintaining the certification and safety of their laboratories. For them, the **business of science** has

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become as important as the **science itself**. The business of science requires knowledge and proficiency in people management, facilities management, external relations and public perceptions, social media, and budgeting.

The legal environment that comes with the management of money, people and information can be daunting: Institutional Review Boards(IRB) (Protection of Human Subjects, Code of Federal Regulations Title 45 - Public Welfare); U.S. Government's Cost Accounting Standards; Florida Open Records Laws (also referred to as the Sunshine laws; Florida Statues, 1995); intellectual property and copyright laws and fair-use doctrine (Copyright Act; 1976); Occupational Safety and Health Act (1970); Affirmative Action laws (Equal Pay Act, 1963; Civil Rights Act, 1964, Age Discrimination in Employment Act, 1967. Vietnam Era Veterans' Readjustment Assistance Act, 1974); the Americans with Disabilities Act (1990); the Family and Medical Leave Act (1993); the Family Educational Rights and Privacy Act (FERPA, 1974); and, the Health Insurance Portability and Accountability Act (HIPAA, 1996). How many did I miss? It almost looks like the business of science today requires a law degree together with a horticulture degree.

These new challenges require a strengthening of basic academic skills and new skills (Table 2). Some are "hard" technical, and others are "soft" people skills.

Where and how are faculty members and students gaining these skills? What role does FSHS have in helping its members be well rounded not only in the science of horticulture but also in the business of horticulture?

Indeed, a lot has changed in the last 131 years for FSHS members.

Table 1. FSHS by-law ARTICLE III. Purposes

A. To serve as an information center to collate, enhance and disseminate information in the broad field of Florida horticulture.
B. To create and publish the proceedings of the Florida State Horticultural Society to advance Florida horticulture.
C. For the advancement of charity education or any other related or corresponding charitable purpose by the distribution of its funds for such purposes.
D. The advancement and development of horticulture in the State of Florida.
E. To operate exclusively in any other manner for such charitable and educational purposes.

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Secretary/Treasurer's Report

By Jamie Burrows

Although Hurricane Irma caused the board to postpone the fall board meeting, it did not affect the productivity of the winter meeting. The board discussed many items of business in the two-hour meeting and made great progress on behalf of the membership. A special thank you to the onsite personnel who helped the board members connect via Zoom. The next board meeting will be held in April.

Jamie D. Burrow
Ext. Program Manager
UF/IFAS CREC

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Technical Research Skills

1. Having critical thinking and being versed in the scientific method: formulation and testing of hypotheses, experimental design, statistics, inference making, discussion
2. Showing the mastery of a field of knowledge
3. Acquiring and improving technical skills in the laboratory and in the field
4. Having written, oral and listening communication skills to address peers, funders, and the public

Technical Teaching Skills

1. Showing good subject matter knowledge and knowledge of the curriculum
2. Selecting appropriately teaching methods and resources for each area taught
3. Communicating with students, colleagues, and parents to enhance learning and understanding
4. Understanding and applying the principles of student growth, development and learning
5. Using student assessment techniques and procedures, and peer review of teaching
6. Thinking critically about teaching and learning and fostering students' creative and analytical thinking skills
7. Promoting positive student behavior and a safe and healthy environment equitably for all students; recognizing student diversity and fostering the promotion of positive student involvement and self-concept

Technical Extension Skills

1. Identifying relevant and timely programmatic needs
2. Developing and sustaining collaborative partnerships to enhance learning outcomes
3. Using technology or other innovative tools to enhance learning
4. Defining learning objectives that address the needs of learners
5. Matching teaching strategies to educational material and the audience's learning style
6. Evaluating program and documenting return on investment

"Soft" Individual skills

1. Having a strong and unshakeable work ethic
2. Showing a positive attitude and self-confidence
3. Practicing efficient time management
4. Practicing problem-solving skills
5. Accepting criticism and being able to learn from it
6. Being flexible and adaptable
7. Working well under pressure

"Soft" People Skills

1. Learning, assessing and adapting on a regular basis
2. Working in an interdisciplinary environment and in a team; developing a network
3. Having good communication (oral, written and body language), listening and language skills
4. Showing business culture and project management skills; planning and organizing
5. Managing and steering teams; coaching, mentoring and motivating
6. Practicing conflict resolution and consensus building
7. Recruiting, interviewing, retaining and terminating employees
8. Knowing how to self-assess and influence others

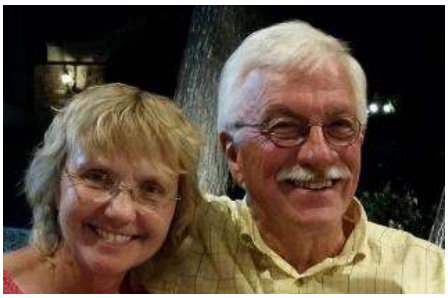
FSHS Proceedings Editors' Report

By Mary Lamberts and George Fitzpatrick

Status of papers:

Section	In Program	Received by FSHS	Published by ASHS	Not Received
Citrus	22	8	1 HortTech	13
H & P	24	6	-	18
Krome M.I.	17	9	1 HortTech	7
Nat. Res	11	4	1 HortTech	6
OGL	25	11[z]		12
Posters	10	9[y]		
Vegetable	26	11[x]	1 HortSci	15

[z] 2 not presented and FSHS will not publish
[y] 1 not presented and FSHS will not publish
[x] 1 from 2016 to be published with the 2017 Proceedings



Drs. Mary Lamberts & George Fitzpatrick

Reminders to all authors: Please email a copy of your paper directly to the editors at editors@fshs.org, copy your sectional Vice President. Papers are due the last day of the meeting. This has always been the policy of the Society. If there is some reason you cannot meet this deadline, please email the editors with a date when they can expect your paper(s). If you would like to have your paper refereed, please submit it to the appropriate ASHS journal and let the editors and your section VP know the number assigned by ASHS. If it is not accepted by an ASHS journal, please let the editors know if you would like to publish it in the Proceedings and send a copy as a Word document as soon as possible.

Formatting: Since refereed papers follow ASHS formatting, the editors have adopted formatting similar to that in HortTechnology for the Proceedings. We will email each author a copy of the updated guidelines as soon as we have a list of authors. They will also be published on the FSHS website.

FSHS Board of Directors

Board Chair: Mark Ritenour
President: Eric Simonne
President Elect: Gene McAvoy
Board Member-at-Large: Cecilia Nunes
Board Member-at-Large: Eric Waldo

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University of Florida Educators Warn California Avocado Industry of a Deadly Threat

By Jeff Wasielewski

In early August of 2017, a group of scientists and educators from the University of Florida traveled across the country to share their knowledge of a deadly disease with the avocado growers of California. California accounts for more than 80% of the total U.S. avocado production and the group from South Florida was delivering dire news of a potential danger to the lucrative California avocado industry. The group was hosted by the California Avocado Commission and spoke to growers in three different avocado growing regions: San Luis Obispo, Ventura, and Fallbrook.

The scientists and educators on the trip traveled from Homestead, Florida where most of the remaining percentage of domestic avocados are grown. South Florida is currently dealing with the devastating effects of a disease called Laurel wilt. This disease is transmitted by tiny ambrosia beetles that bore into trees in the Laureaceae, or laurel family, in order to grow a fungus they feed to their young. The fungus, *Raffaelea lauricola*, is deadly to avocados and some related native species. Avocados are in the laurel family and severely overreact when exposed to this fungus. Infected trees try to wall off the fungus by blocking their xylem tissue, but the fungus quickly jumps the blockade. The tree responds with a more aggressive xylem wall which eventually leads to the tree's death as it can no longer draw water and nutrients up to the canopy through the blocked xylem tissue.

The disease has killed over 40,000 avocado trees since its arrival in South Florida in 2012. Laurel wilt entered the country in 2002 through Port Wentworth, Georgia and has since reached as far north as North Carolina and as far west as Texas. The disease has spread primarily on native species and has killed over 500,000,000 native swamp bay and redbay trees.

Laurel wilt gets its name as it affects trees in the laurel family and trees with the disease quickly turning once healthy leaves to a crispy brown in a matter of days. The disease works so fast that the leaves do not even have time to fall and will remain on the tree, a hallmark of laurel wilt.

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Dr. Daniel Carrillo looks over leaf samples to find insect damage.

Dr. Bruce Schaffer (L) and Dr. Jonathan Crane (R) speak to Arby Kitzman (C) of Fair Haven.

Dr. Randy Ploetz examines an avocado tree for signs of disease

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The disease is vectored by the tiny aforementioned ambrosia beetles and can also move through root grafts. Most avocado groves in South Florida are over 20 years old with the roots of adjacent trees in the grove overlapping, and in many cases, grafted together, allowing elements to pass from tree to tree. Once laurel wilt gets into a grove though beetle infestation, the disease will often move right down a row, killing tree after tree through adjacent root-grafted trees.

The purpose of the group's trip to California was to impart the knowledge they had compiled after years of dealing with this deadly disease. The group consisted of Dr. Jonathan Crane, a tropical fruit specialist, Dr. Daniel Carrillo, a tropical fruit entomologist, Jeff Wasielewski, an Extension agent, Dr. Randy Ploetz, a pathologist, Dr. Edward 'Gilly' Evans, an economist and Dr. Bruce Schaffer, an ecophysiologist. Each team member spoke about his area of expertise to the avocado growers and educators present at the meetings during the three stops of the trip.

The take-home message from the group was that if the disease ever made it to California, the growers should already have a plan in place on how to collectively deal with the disease. Frequent scouting of groves and fast and efficient removal and destruction of trees is currently the best tool available to battle this disease. Removed trees need to be burned or chipped in place. The root system must also be broken and separated from adjacent trees so transmission by root grafting cannot be a problem.

The information flow was not only one way and the group from South Florida delighted in being educated about the growing techniques employed in California. The group visited several groves and the world famous Brokaw Nursery. Producers shared information on pruning techniques, water quality issues, root stock types, pest control, and harvesting methods.

The group would like to extend a special thank you to Dr. Timothy Spann, the research program director of the California Avocado Commission. Dr. Spann was an affable host and safely transported the group hundreds of miles all while maintaining a productive schedule and a great attitude. Thank you Dr. Spann, and may laurel wilt never make it to California!

All photo credit is to Jeff Wasielewski, UF/IFAS Extension—Miami-Dade.

Avocado trees die so quickly from this disease that they are unable to shed their leaves.

Straws

Dr. Timothy Spann address the group in one of Mission Produce's groves.

Dr. Jack Payne
Senior Vice President for Agriculture and Natural Resources, UF/IFAS

UF/IFAS Faculty investigates tree resilience to natural disasters

By Jack Payne

A storm like Irma destroys trees you thought were ageless pillars. Meanwhile, it skips over trees you thought would be sure goners.

It's a real puzzler, and we can chalk it up to the mysteries of Mother Nature. Or we can try to understand it through science so we can divine which trees are the most likely to fall on utility lines and cut the power to your neighborhood.

The guy who wrote the book on Florida trees (actually two books – one for South Florida and one for North Florida) is on the case. Jan. 19 was Florida Arbor Day, but Andrew Koeser spends the whole year thinking about the big plants that get the widest attention when they fall.

His research at the University of Florida's Institute of Food and Agricultural Sciences (UF/IFAS) aims to figure out why a tree survives intact while others around it fall to pieces in the wind and rain.

Because Tampa is a national leader in urban forestry, it stands to be one of the biggest beneficiaries of such research. UF/IFAS Extension, the University of South Florida and the city of Tampa have combined to map out the tree canopy of the metropolitan area.

Dr. Andrew Koeser
Assistant Professor
Env. Horticulture Department

We know more about what's growing where in Tampa than we do in almost any other American city.

A lot of studies have been done on downed trees. Not much research has gone into what goes right – those trees that stubbornly stand through storms. After all, no big emergency to study a tree that doesn't fall, no?

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But, if we can figure out which species with which features are the most likely to survive the fury of a hurricane, we can prevent countless gallons of fuel for your generators, a weeklong "hurricane diet" of peanut butter sandwiches, and slowdowns on roads where the traffic signals aren't working.

With information like this, university plant breeders could develop hurricane-hardy trees. Tree nurseries could get to work growing those trees that are less likely to take down power lines or fall across roads. City planners in Tampa could dispatch their crews to trim, cull, and plant where it will do the most good.

> More than 36,000 Floridian's jobs depend directly on trees.

Koeser's discoveries could guide which trees the city plants, which trees should get priority for pre-hurricane trimming, and even where people might be imperiled by falling limbs.

That's why public science is so important. It can save taxpayer dollars on debris removal. It can cut down the chances that your city will plant a bunch of trees that die quickly and siphon off more of your tax money for replanting. It is an investment.

Tampa's not the only place that thinks about trees, of course. Approximately 200 communities in Florida observe the state's Arbor Day in some fashion.

It doesn't take a hurricane for Floridians to appreciate at least a few of the 17 million acres of forested land in the state. If Florida's forests were a state, they would rank above 10 states in size. More than 36,000 Floridians' jobs depend directly on trees.

The University of Florida is hard at work detecting pests in Cuba that threaten our forests here. Its experts in the UF/IFAS School of Forest Resources and Conservation are dedicated to protecting forestry jobs and the aesthetics of our great state with science.

And people like Koeser are focused on the trees that matter most to you – the ones that can fall on your house, your car, or your power lines. The annual Arbor Day is about how we can more deeply appreciate our trees. We know that starts by keeping them healthy and upright.